

OXYRHYNCHUS AND MONOPLEGMA (LEGUMINOSAE)

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In the course of identifying my two collections of Oxyrhynchus from Mexico I noted that very similar material could be found in several places in the herbarium, in folders of Oxyrhynchus, Dolichos, Monoplegma, Dioclea, Peckelia, Phaseolus, and Vigna, not to mention the "indeterminatae." In some cases nomenclatural synonymy was involved, in others, taxonomic.

The similarity of Monoplegma, with one species, originally described as a Dioclea, and Oxyrhynchus, currently with three species, one of which was first placed in Dolichos, is striking, and I believe should be synonymous, as indicated in the following treatment. The mixture of characters, with some similarities to Phaseolus and Vigna as well as to other segregate genera of those two, suggests an interesting ancestry for Oxyrhynchus. Perhaps it should not be separated from Vigna. Wherever they are placed, however, I think the two following species should be together.

Because the taxa are not generally well known I am presenting a key, descriptions, and citations in the hope that more material will be found and further studies made. For the illustrations I am indebted to Kate Miller, an undergraduate research assistant in the 1967 summer program at the Smithsonian Institution.

OXYRHYNCHUS Brandegee, Univ. Calif. Publ. Bot. 4: 270. 1912.

Type: O. volubilis Brandegee. Mexico.

Monoplegma Piper, Journ. Wash. Acad. Sci. 10: 432. 1920.

Type: M. sphaerospermum Piper. Costa Rica.

Herbaceous or lignescant vines; leaves pinnately trifoliolate; leaflets trinerved at the base, otherwise pinnately nerved; stipules and stipels small, striate, attached at the base; inflorescences racemose with swollen glandular peduncles; bracts striate, attached at the base or the bracteoles sometimes subpeltate; flowers papilionaceous; calyx campanulate with 5 subequal lobes; petals greenish yellow to purplish, the standard glabrous on the outer face, slightly longer than the wings and keel, the keel petals joined, rostrate; stamens diadelphous 9:1; style curved, glabrous at the base, bearded toward the apex, laterally as well as at the base of the stigma, the stigma elongate or subcapitate, terminal or subterminal; fruit bivalved, dehiscent; seeds spherical or subspherical, sublustrous, black to blackish-brown with a white, linear, cushioned hilum; germination hypogeal.

Key to species of *Oxyrhynchus*

Terminal leaflet ovate, acute; flowers 9-10 mm. long; calyx 3-5 mm. long; fruit pubescent, 4-6 cm. long, 2-3 cm. broad; seed 10-15 mm. long, 10-14 mm. in diameter, the hilum extending over half the circumference of the seed (Texas; Mexico; Cuba; Bahamas) 1. *O. volubilis*

Terminal leaflet elliptic, acuminate; flowers 10-15 mm. long; calyx 5-6 mm. long; fruit glabrate, 7-10 cm. long, 3.2-4 cm. broad; seed 18-20 mm. long, 13-17 mm. in diameter, the hilum extending about $\frac{2}{3}$ the circumference of the seed (Mexico; Guatemala; Costa Rica; Colombia) 2. *O. trinervius*

1. *OXYRHYNCHUS VOLUBILIS* Brandegee, Univ. Calif. Publ. Bot. 4: 271. 1912. Type: C. A. Purpus 5281. Mexico.
Dolichos insularis Britton, in Britton & Millspaugh, Bahama Flora 195. 1920. Type: J. A. Shafer 1026. Cuba.
Oxyrhynchus insularis (Britton) Piper, Journ. Wash. Acad. Sci. 14: 48. 1924.
Oxyrhynchus alienus Piper, Journ. Wash. Acad. Sci. 14: 47. 1924. Type: M. E. Woodbridge s.n. Texas.

Herbaceous vine; leaflets ovate to subhastate, the laterals oblique, acute, rounded at the base, the surfaces sparsely appressed-pubescent, glabrescent; stipules deltoid, 3-4 mm. long, 1-1.5 mm. wide; stipels linear-deltoid, about 2-3.5 mm. long, 1 mm. wide or less; bracts linear, caducous; bracteoles ovate-elliptic, sometimes caducous; flowers 9-10 mm. long; calyx 3-5 mm. long, ciliate, otherwise glabrous without, sericeous within, the lobes rounded, about as long as the tube; fruit with valves thinly coriaceous or chartaceous, puberulent, commonly 2- or 3-seeded, 4-6 cm. long, 2-3 cm. broad, 1-2 cm. thick; seed 10-15 mm. long, 10-14 mm. in diameter, the hilum 1-1.5 mm. wide, 15-20 mm. long, extending over half the circumference of the seed.

Distribution: Texas, eastern Mexico, Cuba, and the Bahamas.

UNITED STATES:

Texas: Austin, Woodbridge s.n., Oct. 3, 1921 (US), Oct. 28, 1921 (US), Nov. 1921 (US), Dec. 1921 (US), May 1922 (US), Sept. 13, 1923 (GH, US type of *O. alienus*); Piper s.n., Aug. 13, 1923 (NY).

MEXICO:

Nuevo León: Monterrey, Pringle 11333 (GH, MICH, US).

Tamaulipas: Victoria, Berlandier 3129 (GH); Palmer 265 in 1907 (GH, NY, US); Runyon s.n., Mar. 23, 1925 (US). Jaumave, Viereck 623 (US). Between Victoria and Jaumave, Johnston & Graham 4139 (MICH).

San Luis Potosí: Minas de San Rafael, Rascón, Purpus 5281 (GH, US, isotypes of O. volubilis). Between Tamuín and Ebano, plantation of the Estación Forestal Experimental de la Fábrica Fibracel, Rudd 1072 (US), 1073 (US).

WEST INDIES:

Bahamas: Abaco, Brace 1757 (US fragment).

Cuba: Camagüey: La Gloria, Shafer 255 (US). Cayo Ballenato Grande, Shafer 1026 (NY type of D. insularis, US).

Local name: Frijol monilla (Mexico).

The seeds are used as food and the beans as marbles, according to Palmer (no. 265).

In comparing type material of the three taxa previously placed in Oxyrynchus I can see no reason for maintaining them as separate species.

2. OXYRYNCHUS TRINERVIUS (Donn. Sm.) Rudd, comb. nov.

Dioclea trinervia Donn. Sm. Bot. Gaz. 56: 53. 1913.

Type: O. F. Cook & R. F. Griggs 140. Guatemala.

Monoplegma sphaerospermum Piper, Journ. Wash. Acad. Sci. 10: 433. 1920. Type: A. Tonduz 12743. Costa Rica.

Monoplegma trinervium (Donn. Sm.) Piper, Contr. U. S. Nat. Herb. 22: 664. 1926.

Herbaceous or lignescent vine; leaflets elliptic (terminal) or obliquely ovate (laterals) acuminate, rounded at the base, the surfaces sparsely appressed-pubescent, glabrescent; stipules deltoid, 2-4 mm. long, 1-2 mm. broad at the base; stipels oblong to deltoid, 2-4 mm. long; bracts broadly ovate, attached at the base, the bracteoles broadly ovate to orbicular, sometimes extended below the point of attachment; flowers 10-15 mm. long; calyx 5-6 mm. long, ciliate, otherwise glabrous without, sericeous within, the lobes rounded, about as long as the tube; fruit with valves coriaceous, subsericeous when young, essentially glabrous at maturity, 1-4-seeded, 7-10 cm. long, 3.2-4 cm. broad, 1-2 cm. thick; seed 18-20 mm. long, 13-17 mm. in diameter, the hilum about 1.5 mm. wide, 30-35 mm. long, extending about 2/3 the circumference of the seed.

Distribution: Known from southern Mexico, Guatemala, Costa Rica, and western Colombia.

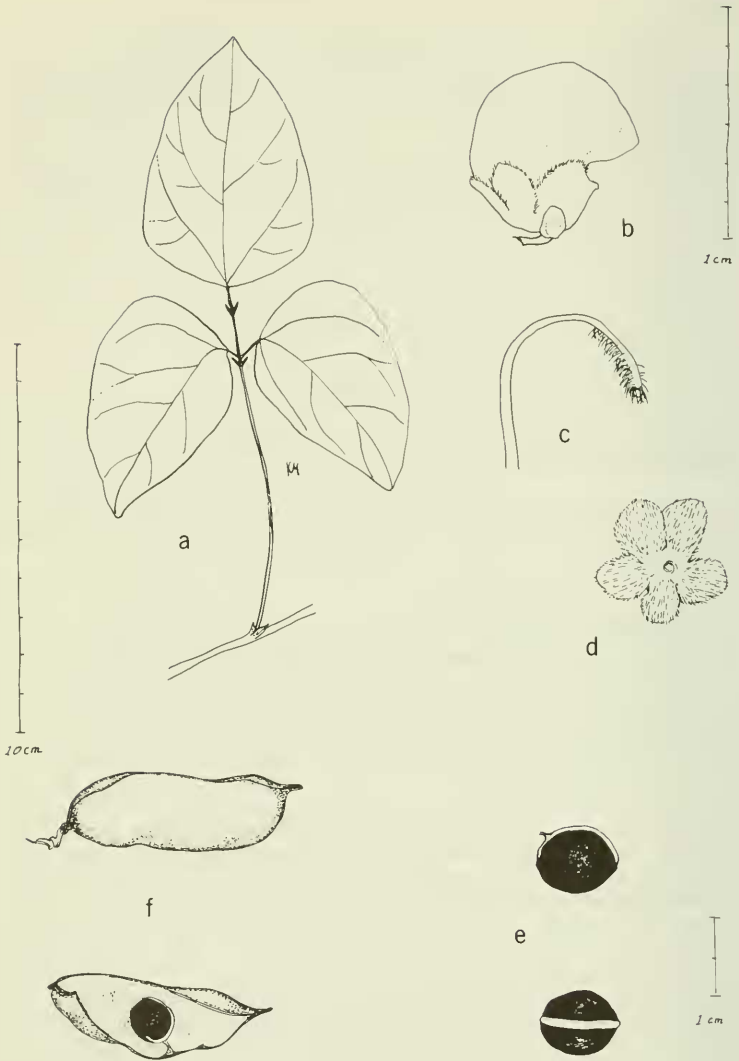


Fig. 1 - *Oxyrhynchus volubilis*: a, leaf; b, unopened flower; c, style and stigma; d, interior of calyx; e, seeds; f, fruit.

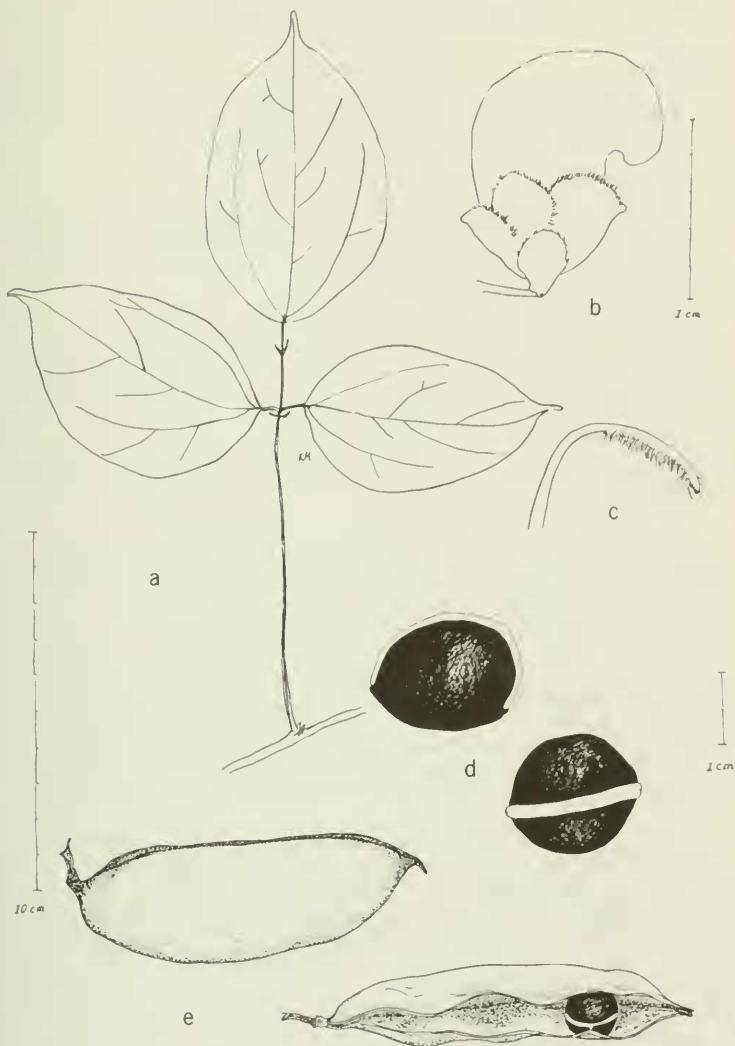


Fig. 2 - *Oxyrhynchus trinervius*: a, leaf; b, unopened flower; c, style and stigma; d, seeds; e, fruit.

MEXICO:

Veracruz: Río Coscuapam, Los Tuxtlas, Sousa 2916 (MEXU, US).

GUATEMALA:

Alta Verapaz: Near Finca Sepacuite, Cook & Griggs 140 (US type of D. trinervia).

Baja Verapaz: Panzal, von Tuerckheim 3909 (US).

COSTA RICA:

Puntarenas: Barú, Pittier Herb. Inst. Cost. no. 7 11958 (US).

San José: El General, Skutch 2738 (GH, MICH, NY, US). Las Vueltos, Tucurrique, Tonduz Herb. Inst. Cost. no. 7 11450 (US), 12743 (US type of M. sphaerospermum).

Cartago: Vicinity of Finca las Concaves, Standley 52502 (US).

COLOMBIA:

Valle: "Cordillera Occidental, vertiente occidental: Hoya del río Sanquinini, lado izquierdo, La Laguna, bosques, 1250-1400 m. alt.," Cuatrecasas 15679 (US).

Local names: Chumicos, frijol de playa, jaboncillo (Costa Rica).

Another genus that may be closely related, if not synonymous, is Peekelia Harms (Notizbl. Berlin 7: 26 bis [370]. 1920) based on Phaseolus papuana Pulle from New Guinea. The original description notes, "legumen oblongum vel late oblongum . . . , dehiscens, valvis chartaceis; semina pauca (2-3), subglobosa, . . . sordide atrobrunnea, umbilico lineari impresso, leviter vel levissime canaliculiforme, ultra dimidium vel fere ad 2/3 seminis circumferentiae occupante." The only material I have seen consists of four immature flowers from Versteeg 1795 ex BO; the calyx lobes and subtending bracts suggest that this taxon is at least specifically distinct from Oxyrhynchus volubilis and O. trinervius.

In 1951 O. W. Norvell, from Davis, California, annotated as Oxyrhynchus the type and isotype of Vigna populnea Piper at US (Pringle 2839, collected near Monterrey, Nuevo León, México). No formal combination has been made and I do not wish to do so at this time because of insufficient material. The type is a flowering specimen; the isotype bears an immature fruit about 10 cm. long and 1 cm. wide. With the latter is one immature, subreniform seed about 9 mm. long and 6 mm. wide, with the hilum about 5 mm. long. The calyx most resembles that of Peekelia papuana!

Two other flowering collections from Mexico that might be referable to Oxyrhynchus are Bartlett 10905, from Pico Diablo, near Marmolejo, Tamaulipas, and Hinton 14658, from the Galeana district of Guerrero, but fruiting material is needed to confirm the identification.